



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,595	03/06/2001	Mohammad Shahidehpour	IIT-158	6871

42419 7590 04/21/2005

PAULEY PETERSEN & ERICKSON  
2800 WEST HIGGINS ROAD  
SUITE 365  
HOFFMAN ESTATES, IL 60195

EXAMINER

STIMPAK, JOHNNA

ART UNIT

PAPER NUMBER

3623

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/827,595

**Applicant(s)**

SHAHIDEHPOUR, MOHAMMAD

**Examiner**

Johnna R Stimpak

**Art Unit**

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The following is a final office action upon examination of application number 09/827,595. Claims 1 and 2 have been amended, claims 6-10 have been added. Claims 1-10 are pending and have been examined on the merits discussed below.

### ***Response to Arguments***

2. Applicant's arguments with respect to the rejection of the claims under 35 USC 102 and 35 USC 103 in view of Furukawa et al. have been considered but are moot in view of the new ground(s) of rejection.

3. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., factors considered in scheduling tasks related to power grids such as taking power generators offline and ensuring sufficient power production and transmission capacities) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papalexandri et al, "Operation of a steam production network with variable demands modeling and optimization under uncertainty".

As per **claim 1**, Papalexandri et al teaches generating a plurality of schedules for performance of independent tasks and coordinating plurality of schedules using Benders decomposition (p S766, benders decomposition is used to determine the optimal schedule for furnaces to determine the most cost effective plan). Papalexandri et al teaches optimization of a mathematical model developed to optimize the operation of a utility network operating for different steam and electric power demand levels, but Papalexandri et al does not explicitly teach submitting the schedules to a master coordinator for one of approval and disapproval, generating one of an approval decision and a disapproval decision; returning one of an approval decision and a disapproval decision to independent entities; adjusting schedule for which disapproval decision is returned, resulting in at least one adjusted schedule; and returning adjusted schedule to master coordinator for reconsideration. However, official notice is taken that it is old and well known in the art of scheduling to generate a schedule, submit for approval and make necessary adjustments upon disapproval, wherein the schedule is again considered for approval. It would have been obvious to one of ordinary skill in the art at the time of the invention to submit the

Art Unit: 3623

schedule generated in Papalexandri et al for approval wherein tradeoffs are analyzed to determine the most optimal schedule.

As per claim 2, Papalexandri et al does not explicitly teach wherein steps b through g are repeated until all schedules have been approved. However, official notice is taken that it is old and well known in the art of scheduling to generate a schedule, submit for approval and make necessary adjustments upon disapproval, wherein the schedule is again considered for approval until all schedules are approved. It would have been obvious to one of ordinary skill in the art at the time of the invention to submit the schedules generated in Papalexandri et al for approval wherein tradeoffs are analyzed to determine the most optimal schedule.

As per claim 3, Papalexandri et al teaches the schedules are implemented after all schedules are approved (once the mathematical model is developed and all constraints optimized the schedule is put into action).

As per claim 4, Papalexandri et al teaches the use of modeling for constraint optimization for a electric power demand levels at electric plants. Inherently the approval process would be implemented by a supervisory entity at the power plant.

As per claim 5, Papalexandri et al teaches optimizing the use of furnaces and turbines, inherently run by power companies.

As per claim 6, Papalexandri et al teaches generating as a function of at least one of power generation and power transmission constraints (page S765 – capacity constraints for pumps turbine, headers and furnace are considered among others) a plurality of schedules for performance of independent tasks and coordinating plurality of schedules using Benders decomposition (p S766, benders decomposition is used to determine the optimal schedule for

Art Unit: 3623

furnaces to determine the most cost effective plan). Papalexandri et al teaches optimization of a mathematical model developed to optimize the operation of a utility network operating for different steam and electric power demand levels, but Papalexandri et al does not explicitly teach submitting the schedules to a master coordinator for one of approval and disapproval, generating one of an approval decision and a disapproval decision; returning one of an approval decision and a disapproval decision to independent entities; adjusting schedule for which disapproval decision is returned, resulting in at least one adjusted schedule; and returning adjusted schedule to master coordinator for reconsideration. However, official notice is taken that it is old and well known in the art of scheduling to generate a schedule, submit for approval and make necessary adjustments upon disapproval, wherein the schedule is again considered for approval. It would have been obvious to one of ordinary skill in the art at the time of the invention to submit the schedule generated in Papalexandri et al for approval wherein tradeoffs are analyzed to determine the most optimal schedule.

As per claim 7, Papalexandri et al does not explicitly teach wherein steps b through f are repeated until all schedules have been approved. However, official notice is taken that it is old and well known in the art of scheduling to generate a schedule, submit for approval and make necessary adjustments upon disapproval, wherein the schedule is again considered for approval until all schedules are approved. It would have been obvious to one of ordinary skill in the art at the time of the invention to submit the schedules generated in Papalexandri et al for approval wherein tradeoffs are analyzed to determine the most optimal schedule.

Art Unit: 3623

As per claim 8, Papalexandri et al teaches the schedules are implemented after all schedules are approved (once the mathematical model is developed and all constraints optimized the schedule is put into action).

As per claim 9, Papalexandri et al teaches the use of modeling for constraint optimization for a electric power demand levels at electric plants. Inherently the approval process would be implemented by a supervisory entity at the power plant.

As per claim 10, Papalexandri et al teaches generating the plurality of at least one of an approval decision and a disapproval decision comprises Benders decomposition (p S766, benders decomposition is used to determine the optimal schedule for furnaces to determine the most cost effective plan).

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Binato, Silvio – Thesis Abstract – “Optimal Power Transmission Expansion Planning by Benders Decomposition and Cutting Planes Techniques”

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 3623

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnna R Stimpak whose telephone number is 703-305-4566. The examiner can normally be reached on M-F 8am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 703-305-9643. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JS  
4/15/05

  
TARIQ R. HAFIZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600